I claim:

1. An image processing system comprising:

a color-space converter that is configured to provide a conversion of pixel values in a

5 first color-space to corresponding pixel values in a second color-space,

a scaler that is configured to provide a scaling of pixel values at a first scale to corresponding pixel values at a second scale, and

a filter that is configured to apply a filter function to pixel values;

wherein

10 the color-space converter uses the filter to provide the conversion, and

the scaler uses the filter to provide the scaling.

2. The image processing system of claim 1, further including

a first multiplexer that is configured to selectively provide pixel values to the filter to

15 selectively effect the conversion and the scaling.

3. The image processing system of claim 2, further including

a second multiplexer that is configured to selectively provide color-space-conversion

coefficients and scaling coefficients to the filter to selectively effect the conversion and the

20 scaling.

4. The image processing system of claim 3, wherein

a third multiplexer that is configured to selectively provide offset parameters to the filter

to selectively effect the conversion and the scaling.

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5. The image processing system of claim 1, wherein

the filter is an FIR filter.

6. The image processing system of claim 1, further including

a memory that facilitates communication of pixel values among the color-space converter, the scaler, and the filter.

5   7. The image processing system of claim 1, wherein

the filter is a 6-tap, 3-element FIR filter.

8. The image processing system of claim 1, wherein

the filter includes a multiply-add array, and

10   the color-space converter uses the multiply-add array of the filter to provide the conversion, and

the scaler uses the multiply-add array of the filter to provide the scaling.

9. A processing system comprising:

a multiply-add array that includes:

six data inputs, each data input including three element inputs, and

eighteen coefficient inputs;

5   the multiply-add array being configured to effect a 3x6 matrix multiplication of the six data inputs and the eighteen coefficients to provide an output having three element outputs, and

a multiplexer, operably coupled to the multiply-add array that is configured to provide,

when the multiplexer is in a first selectable mode,

10   each of six pixel values, each having three component values, to each of the six data inputs; and

when the multiplexer is in a second selectable mode,

each of three components of a single pixel value to three of the six data inputs, each of the three components being provided to the three element inputs of each of the three data inputs, and

each of three offsets associated with the three components of the single pixel value to another three of the six data inputs, each of the three offsets being provided to the three element inputs of each of the another three data inputs.

20 10. The processing system of claim 9, wherein

the multiplexer is further configured to provide,

when the multiplexer is in the first selectable mode,

eighteen scaling coefficients to the eighteen coefficient inputs, to provide a scaled pixel value corresponding to the six pixel values as the output; and

25   when the multiplexer is in the second selectable mode,

nine color-space conversion coefficients to each of:

a first set of nine coefficient inputs of the eighteen coefficient inputs, and

a second set of another nine coefficient inputs of the eighteen coefficient inputs, to provide a color-space conversion of the single pixel value as the output.

11. The processing system of claim 10, wherein

the multiply-add array further includes:

three offset inputs, for offsetting each of the three element outputs; and

the multiplexer is further configured to provide,

5 when the multiplexer is in the first selectable mode,

three scaling offsets to the three offset inputs, to offset the scaled pixel

value; and

when the multiplexer is in the second selectable mode,

three color-space offsets to the three offset inputs, to offset the color-space

10 conversion of the single pixel value.